

IN THE CLAIMS

1. (Cancelled).

2. (Cancelled).

3. (Cancelled).

4. (Cancelled).

5. (Cancelled).

6. (Cancelled).

7. (Cancelled).

8. (Cancelled).

9. (Cancelled).

10. (Cancelled).

11. (Cancelled).

12. (Cancelled).

13. (Cancelled).

14. (Cancelled).

15. (Cancelled).

16. (Cancelled).

17. (Cancelled).

18. (Cancelled).

19. (Cancelled).

20. (Cancelled).

21. (Currently Amended) A method for transmitting an RF signal comprising:
modulating a data signal with an orthogonal pseudo random code;
transmitting the data signal as a baseband direct sequence spread spectrum
CDMA, wherein no additional modulation is performed on the data signal before
transmission;

driving a mismatched antenna; and

actively servoing a transmit signal to cancel the transmit signal from a receive
signal.

22. (Previously Presented) The method of Claim 21 further comprising the
step of spreading a baseband signal across DC to 30 MHz.

23. (Previously Presented) The method of Claim 21 further comprising the step of using a same antenna to transmit and receive baseband signals in a full duplex mode of operation.

24. (Cancelled).

25. (Currently Amended) A method for transmitting an RF signal, comprising ~~the steps of:~~

modulating a data signal in a single step with a Hadamard function having pseudorandomly scrambled rows;
driving a mismatched antenna; and
transmitting the data signal as baseband direct sequence spread spectrum CDMA.

26. (Original) The method of Claim 25 further comprising the step of converting a digital data signal into an equivalent analog signal which is directly transmitted by an antenna over the air, wherein the antenna is at least ten times shorter than the wavelength of the signal being transmitted.

27. (Original) The method of Claim 25 further comprising the step of actively servoing a transmit signal to cancel the transmit signal from a receive signal.

28. (Original) The method of Claim 25 further comprising the step of spreading a baseband signal across DC to 30 MHz.

29. (Previously Presented) The method of Claim 25 further comprising the step of using a same antenna to transmit and receive baseband signals in a code division duplex mode of operation.

30. (Original) The method of Claim 25 further comprising the step of transmitting baseband signals for peer-to-peer cellular communications.

31. (New) A baseband direct sequence spread spectrum CDMA transceiver comprising:

a transmitter which modulates data by a Hadamard function having pseudorandomly shuffled rows or columns, wherein the data is only modulated in one single modulation step with no additional modulation before transmission; and

an antenna shorter than transmit signal wavelength for broadcasting baseband signals, wherein the antenna is driven mismatched.

32. (New) The baseband direct sequence spread spectrum CDMA transceiver of Claim 31 wherein the antenna is at least ten times shorter than the transmit signal wavelength.

33. (New) The baseband direct sequence spread spectrum CDMA transceiver of Claim 31 wherein the baseband signals are radio frequency signals spread across DC to 30 MHz.

34. (New) The baseband direct sequence spread spectrum CDMA transceiver of Claim 31 comprising a code division duplex mode of operation.

35. (New) The baseband direct sequence spread spectrum CDMA transceiver of Claim 31 further comprising a low noise high gain bandwidth amplifier for boosting a received baseband signal.

36. (New) The baseband direct sequence spread spectrum CDMA transceiver of Claim 31 further comprising a lookup table utilized to modulate and demodulate the baseband signal and a pointer for pointing to Walsh/Hadamard codes corresponding to said Hadamard function.

37. (New) The baseband direct sequence spread spectrum CDMA transceiver of Claim 31 further comprising an active servo system for canceling transmit signals from receive signals.

38. (New) A baseband direct sequence spread spectrum CDMA transceiver comprising an antenna for transmitting a baseband signal, wherein said antenna is driven mismatched.

39. (New) The baseband direct sequence spread spectrum CDMA transceiver of Claim 38, wherein the antenna is at least ten times shorter than the transmit signal wavelength.

40. (New) The baseband direct sequence spread spectrum CDMA transceiver of Claim 39 comprising a code division duplex mode of operation.